IG WEALTH MANAGEMENT

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Feverish Investing:

WHETHER YOUR MOTIVES ARE PRAISEWORTHY OR GREEDY, IT ALMOST NEVER PAYS TO LOOK FOR QUICK INVESTMENT RETURNS WHEN A PANDEMIC BREAKS OUT.

STEPHEN ROGERS, INVESTMENT STRATEGIST

On May 8, 2018, the Democratic Republic of Congo (DRC) declared an outbreak of Ebola, the deadly hemorrhagic fever that killed more than 11,000 people in West Africa in a 2014 outbreak. The share price of Lake Industries Inc., a maker of hazmat suits and other protective gear, jumped more than 10% that day before settling back. *Continued…*

It was a familiar pattern. In early 2015, an outbreak of Zika, the mosquito-borne virus believed to cause microcephaly and other neurological abnormalities, spread rapidly from Brazil to dozens of other countries in the Americas, including the United States. Investors piled into stocks related to potential treatments. And just as was the case with SARS (Severe acute respiratory syndrome) in 2003, H1N1 influenza in 2009, and Ebola in 2014, investors were well-advised to be cautious in their approach to companies said to be working on treatments.

In fact, rather than chasing highly risky short-term gains related to a pandemic outbreak, investors might be better served by examining the risks posed by a health crisis to existing investments and asking what might be done to mitigate or manage those risks.

Is there a moral problem?

Some people think investing in stocks that might profit from crisis is akin to war-profiteering, because the potential for profit exists because people are suffering. Putting money into a stock when it jumps due to a health panic and then taking it right back out again before the stock drops may be morally dubious. But most ethicists agree there is no moral problem with crisis investing with a longer time horizon. The investment is not causing harm but rather reacting to it, and in a market-based society, pharmaceutical companies depend on private investors to fund development of drugs that save lives. Investing in a company because it is working on treatments for outbreaks "directly motivates a company to complete research on their pipeline drugs, as well as providing the capital for that research." (Oksman, The Guardian, Nov. 3, 2014).

'Taking the history'

A widespread epidemic almost always grabs the attention of investors looking for a big payday from companies that could be first with breakthrough treatments. But investors rarely benefit from outbreak-related moves. These prominent recent examples should make investors think twice about acting on impulse:

BioCryst Pharmaceuticals (NASDAQ: BCRX)

In June 2009 the World Health Organization (WHO) declared H1N1 Influenza A (swine flu) a pandemic. When an experimental drug developed by BioCryst gained emergency approval, the company's shares jumped over 300% on the news, part of a run that took the stock from U.S.$1 to over $12 in barely eight months. Four months later it was trading at less than half that level. From there it drifted slowly further downward for the next three years.

The outbreak of Ebola in West Africa in 2013 brought BioCryst back to life. This time from less than $1 in June 2013, the company's stock rode the outbreak of attention to as high as $16 two years later. Predictably, less than seven months after that, it had plummeted to less than $2.

Tekmira Pharmaceuticals (NASDAQ: TKMR)

Tekmira was a Canadian-based firm developing a potential Ebola vaccine, TKM-Ebola, based on a gene-silencing technology. As the virus made headlines, Tekmira's stock surged from below U.S.$5 in mid-2013 to over $30 the following March. Two years later, renamed Arbutus Biopharma Corp. (NASADQ: ABUS) and re-focused on Hepatitis B (and making very little mention of Ebola on its corporate website), the stock languished below $4.

Inovio Pharmaceuticals (NASDAQ: INO)

Inovio was another company with no products on the market but working on vaccines for various targets including cancer, influenza and Ebola, when the Ebola outbreak began. From June 2013 to March 2014 the stock climbed from less than U.S.$3 to over $15 before beginning a multi-year retreat.

Lakeland Industries (NASDAQ: LAKE)

Rather than drugs, Lakeland makes hazmat suits, the protective garb prominent in all visual media reporting from the active Ebola zone in 2014. As the global response to that crisis gained momentum, so did Lakeland stock, rocketing from under U.S.$6 to $29 in two months. It now trades at half that level.

And then came Zika! Did we learn anything?

As the global concern over Zika grew (including calls to stop or move the 2016 Rio Olympic Games), so too did the sense of déjà vu for investors in drug stocks.

Inovio Pharmaceuticals (again)

Because Inovio's approach to creating a vaccine is based on using a strand of DNA rather than a whole, live virus, it is expected to be potentially safer and have a shorter development timetable and expedited approval process. On January 29, 2016, a news story suggested its Zika vaccine might be ready earlier than expected, and the stock leapt ahead over 15%. By June it was trading more than 130% higher than it had been in mid-January. Since human trials of its Zika vaccine began in Q3 2016, the stock has retreated more than 60%.

Intrexon Corp. (NYSE: XON)

Through its subsidiary Oxitec (from Oxford Insect Technologies, formed by Oxford University scientists who studied genetically modified mosquitos), Intrexon developed a vector control program aimed at wiping out dangerous mosquito populations by introducing GMO bugs whose offspring can't reproduce. In early 2016 the stock was 70% below its high reached the previous year. Then the company was profiled by the New York Times on the front page of its Business section. The stock immediately jumped 5% and continued higher in the following five weeks as the FDA released preliminary findings that GMO mosquitos were environmentally safe. Since then, however, the shares have drifted steadily lower. They now trade at less than half the level reached in the wake of the Times article.

GeneOne Life Science Inc.

GeneOne is a Seoul, South Korea-based company collaborating with Inovio on DNA vaccines for Zika, Ebola and MERS. Not surprisingly, its stock on the Seoul stock exchange has displayed volatility similar to that of its U.S. partner.

Large-cap companies are not immune

Larger companies can just as easily get caught up in the hype of a public health crisis as can small companies. The shares of Merck & Co. climbed almost 3% the day after the Ebola outbreak was declared in the DRC this May and were 5% higher by the week's end. The company's experimental vaccine was set to be deployed against the virus by the World Health Organization. At the height of the 2016 Zika scare, stocks seen to react at least slightly to the related headlines included large-cap pharma names with established vaccine businesses (e.g., Sanofi, GlaxoSmithKline, Merck) and insecticide manufacturers (e.g., BASF, Bayer, Dow, Monsanto, Syngenta). However, the potential revenue boost due to the epidemic was not material to any of these large, diversified organizations.

Why the sickly track record?

Jumping into the stock of a company that says it is doing early work on a vaccine is dangerous for good reason: developing vaccines is not easy and can take a long time.

Inovio CEO Joseph Kim told Forbes, "It is hard to predict when a vaccine will hit the market because it depends on the urgency, spread of the outbreak and interactions with regulatory agencies like the Federal Drug Administration (FDA)." But worrying about long approval times is not as important as remembering that the vast majority of experimental drugs fail and *never* reach commercialization.

A further note of caution concerns the potential for scams involving companies that claim their products or services relate to a virus outbreak. In November 2014 the U.S. Securities and Exchange Commission issued an alert about potential Ebola-related scams. In March 2016 it issued a similar alert: “Zika Virus may give rise to investment scams.” According to the alert, “Investment scam artists often exploit the latest crisis to line their own pockets and Zika is no exception.”

The simplest way to practice the appropriate caution is to make sure you are not making an investment just because of a current scare. It is great if a company can someday do something to help eliminate the global health-scare du jour, but whatever the size of the company involved, there should be other reasons to own it.

The economic impact of pandemics

Even for more level-headed investors not out to make a quick buck, pandemics and other health emergencies have many implications, ranging from the direct effects on certain businesses and industries to the impact on the level of broader economic activity of whole countries, regions or the globe.

Company and Sector Risks

Perhaps the most obvious impact of a health emergency is a fear-driven decline in the numbers of travellers to affected regions. At particular risk if significant numbers have been scared into staying home are companies in industries such as Airlines, Hotels, Cruise Operators and Restaurants.

For some perspective it is perhaps useful to examine the experience of these industries in previous crises, bearing in mind that risk avoidance and behavioural responses differ between illnesses spread by human interaction and those spread by other vectors such as mosquitos.

SARS (2002-03)

The atypical pneumonia that appeared in China in late 2002 and spread to other countries in spring 2003 prompted quarantines in Hong Kong, Singapore, Taiwan, and Canada. Schools closed in Hong Kong and Singapore, and the WHO recommended screening of airline passengers and advised against all but essential travel to Toronto.

According to Reuters, Asia-Pacific air carriers saw their aggregate revenues during the crisis plunge $6 billion, and North American airlines revenue fell $1 billion. In parts of China, the government closed bars, shopping malls, movie theatres and sports facilities to try to minimize human-to-human contact. In Beijing, 80% of hotel rooms were vacant. Estée Lauder reported a hit to profits due to lost sales of cosmetics in duty-free airport shops in Hong Kong, Singapore and China.

Post hoc assessments showed Hong Kong experienced a decline in Q2 GDP primarily in personal air travel and tourism. Restaurant revenues dipped 10%. However, retail sales actually rose while SARS cases were surging. More importantly, air cargo and goods exports were unaffected. Goods continued to be exported through Hong Kong normally.

Singapore experienced a pattern very similar to Hong Kong. Hotel occupancy was cut in half in Q2 but then rebounded sharply. Retail sales were unaffected, and shipping and air freight actually rose during the crisis. Singapore’s GDP took a $400 million hit in total.

In Toronto, anecdotal reports at the time suggested hospitality industries were significantly impacted. Telecom equipment maker Nortel was reported hurt by both vendors and customers staying home. Testifying to the U.S. Senate Committee on Foreign Relations, Dr. James Newcomb, Managing Director of Bio Economics Research Associates, claimed SARS had an economic impact. However, researchers at Canada’s Department of Finance (James & Sargent, 2007) said hard data did

not support this assertion. Air transportation was down 14% from March to May 2003 and accommodation related to air travel declined 8%. But James and Sargent found no apparent impact on transit, ground transportation, or the food service or drinking place industries. In fact, in Ontario, retail sales and restaurant receipts grew faster during the outbreak than in the rest of Canada.

James and Sargent also point out that reduced travel to Canada at that time can be explained by factors other than SARS. For one thing, Q2 2003 saw an unprecedented appreciation in the value of the Canadian dollar. Furthermore, SARS coincided with the start of the second Gulf War and heightened fears of terrorism. Nevertheless, James and Sargent concede some of the fear of flying may have been related to SARS, and conclude that a temporary reduction in international travel to affected locations and some associated reductions in accommodation were the only apparent impacts in either Canada or South Asia. Goods trade, supply chains and retail sales were unaffected, as local populations tended to carry on with their lives.

H1N1 Influenza A (2009)

The global flu outbreak, declared a pandemic by the WHO in June 2009, manifested similar behavioural responses as did SARS. Affected areas saw increased employee and school absenteeism. Some areas (e.g., Argentina) reported severe stress on health care systems as health care workers stayed away from work. Mexico, one of the first countries to report an outbreak, saw an estimated loss of a million overseas tourists over a five-month period (Rassy & Smith, 2013) that translated into losses of about $2.8 billion.

Ebola (2013-15)

The largest outbreak to date of Ebola hemorrhagic fever began in West Africa in December 2013 and was declared no longer an emergency in March 2016. According to the World Bank, the crisis crippled the economies of Guinea, Liberia and Sierra Leone, hitting their combined GDP by roughly 5%. Once again, the economic impact was mostly based on risk aversion behaviour. The World Bank also noted minor costs (disruptions to trade and travel) to other areas of sub-Saharan Africa due to the erosion of consumer and investor confidence. The Bank attributes this to misperceptions about African geography, as many of the economically affected countries did not experience a single case of Ebola.

Zika at the Olympics (2016)

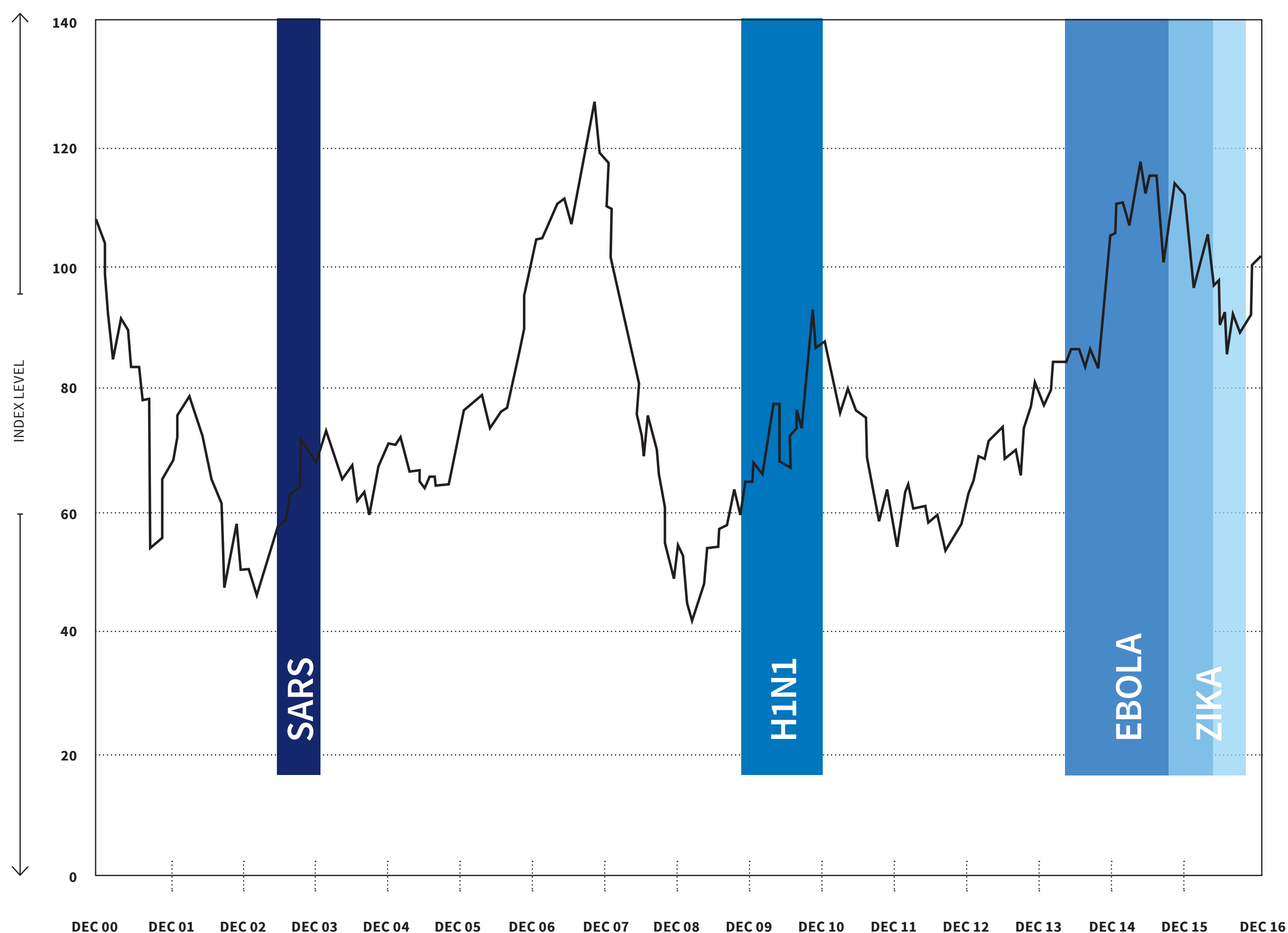
Rio de Janeiro saw as many as 500,000 foreign visitors to the Olympics in August 2016. Prior to the Games the U.S. Centers for Disease Control and Prevention (CDC) issued a Level 2 travel alert (Practice Enhanced Precautions) for people traveling to regions where Zika transmission was ongoing, although it did not issue a travel ban. It also recommended that pregnant women “consider not going to the Olympics.” Despite the warnings, it appears that only a handful of athletes and potential visitors changed their plans for Rio.

So what does that all mean? Evaluating company risk

The common effects seen in these crises are the reduction of personal travel and tourism to the affected areas and the resulting risk to airlines, hotels and entertainment companies. Bank of America Merrill Lynch reported U.S. airline revenues over the Pacific fell by 40% in Q2 2003 due to SARS, their stocks having dropped 22% in January and February. But both revenues and stock prices showed a quick recovery. U.S. airline stocks fell 20% in September-October 2014 during the Ebola crisis, then recovered all losses in just 10 days and posted strong gains for the rest of the year.

Bloomberg World Airline Index

SOURCE: IG INVESTMENTS, BLOOMBERG



As a group, global airline stocks, commonly thought to be the most at-risk sector, have actually tended to rise during recent global health emergencies (Figure 1.)

Beyond this, initial alarmist reports about broad negative economic impacts are generally not borne out (James & Sargent) although there is also typically some disruption and lost productivity in the directly affected areas due to employees staying home.

The experience in previous crises points to the bulk of measurable economic impacts being contained to affected regions, and among equities to those companies with direct activities in those regions. Real exposure will vary widely between companies and requires careful analysis of companies' operations to assess stock-specific risk. For example, Bank of America Merrill Lynch points out that among U.S. airlines the percentage of 2015 passenger revenues

coming from Zika-infected regions in Latin America and the Caribbean ranged from lows of zero (Hawaiian, Allegiant) or 2-3% (Virgin America, Southwest) to highs of 25% (JetBlue) and 13% (American). Delta, which had a 2015 revenue exposure of 8%, reported that “Zika-related cancellations had a very small impact on Latin America” results in Q1 2016.

That being said, companies in any industry that have employees who live in or travel regularly to pandemic-affected areas face potential costs:

- **Employee illness** – where employees contract disease as a result of employment activities, firms may have to bear the costs of treatment, lost wages, and potentially death benefits. In some jurisdictions workers’ compensation insurance schemes may provide some coverage, but most companies bear at least some of these types of costs through ‘self-insurance’.
- **Evacuation** – firms with operations or project sites in affected regions may find they have to evacuate employees. In addition to egress costs, site shutdown costs may be substantial.
- **Labour action** – many jurisdictions provide for employees a right to refuse work when dangerous conditions exist. Work stoppages obviously have an economic impact on companies, but potentially inappropriate handling of such stoppages can lead to legal repercussions, adverse labour force actions, and reputational damage.
- **Market place and supply chain impacts** – business interruptions can jeopardize supply chain contracts, inflict long-term damage to market share, etc.

Against this backdrop, all businesses potentially exposed to a health emergency need to understand the business implications of potential risks and ensure they have in place appropriate insurance and risk management policies. For example, companies should

- Have established policies on travel to and from affected areas, ways to minimize exposure of employees, and hygiene, medical screening and health support where appropriate.
- Provide employees in high risk areas with safety and awareness tips.
- Have business continuity and crisis management plans, corporate structures to manage response, and be prepared to cope with large numbers of employees staying home or being unable to work.
- Have plans and insurance in place for possible site shutdowns and the costs of egress.

Management of investment portfolio risk

Many of the issues and risks to individual firms listed above are difficult to assess for do-it-yourself investors. Portfolio managers and analysts overseeing Investors Group’s actively managed funds conduct ongoing and thorough analysis of each and every company whose securities are held in the portfolios. As part of this portfolio monitoring, the portfolio managers and analysts talk regularly with corporate management teams, as well as with their customers, suppliers and other industry analysts. PMs are committed to real-time monitoring of the business operations and headline risk of all securities held.

An essential element of the research that goes into portfolio managers’ decision-making is a review of governance factors at each company. As a signatory to the United Nations-supported Principles of Responsible Investing (PRI), Investors Group is committed to integrating environmental, social and governance factors into the investment analysis and decision-making process. “Governance” in this

context includes “Preparedness,” an analysis of policies, programs and management systems in place to deal with risks and incidents that arise. Valérie Cecchini, portfolio manager of Investors Summa SRI Fund, looks for companies that have developed a sustainable business strategy. “Being able to respond to unexpected events (a company cannot predict everything) is a key element in making a business sustainable in the long run,” says Cecchini.

To enhance our capabilities in this area (especially with regard to Investors Summa SRI Fund), our portfolio managers at Mackenzie Investments utilize the services of independent SRI/ESG research organizations, such as Sustainalytics, a global firm providing comprehensive ESG research and ratings across more than 4500 companies worldwide. Sustainalytics' reports detail risks and incidents that arise at each company, training and awareness of employees, and planning for operational, business, legal and reputational risk raised by any situation.

Final thoughts

At Investors Group, we don't believe in reacting hastily to short-term investment fads or market panics, but our team of experts is always vigilant in watching for situations material to our portfolio positions. The development of treatments for Ebola, Zika, or any other health crisis may someday present investment opportunities, but such opportunities always need to be viewed with a healthy dose of caution. In the meantime, as always, the investment teams overseeing our actively managed funds are committed to keeping considerations such as operational exposure to developing risks, corporate emergency preparedness, and health and safety management systems, firmly in the decision-making process. ●

RESOURCES

Bank of America Merrill Lynch, *Zika concerns growing: a look at exposures and other recent outbreaks*, January 28, 2016

Begley, Sharon, *Flu-conomics: The next pandemic could trigger global recession*, Reuters, January 21, 2013.

Conference Board of Canada, *The Economic Impact of SARS*, May 2, 2003.

Davis, Alexa, *Biotech stocks soar in race to create Zika vaccine*, Forbes, January 29, 2016.

Delta Airlines, *Q1 2016 Earnings Call*, April 14, 2016

The Economist*, Should I stay or should I go: Zika and the Olympics*, June 4, 2106

James, Steven and Sargent, Tim, *The Economic Impact of an Influenza Pandemic*, Canada Department of Finance, April 2007.

Marsh & McLennan, *Zika threat is worse than initially thought, health authorities say,* 2016, www.marsh.com.

Newcomb, James, *Economic Risks associated with an Influenza Pandemic*, Testimony to the United States Senate Committee on Foreign Relations, November 2005.

Oksman, Olga, *The moral person's guide to investing in Ebola stocks'*, The Guardian, Nov. 3, 2014.

Rassy, D. and Smith, R., *The economic impact of H1N1 on Mexico's tourist and pork sectors*, Department of Global Health and Development, Faculty of Public Health and Policy, London School of Hygiene and Tropical Medicine, July 2013.

Siu, Alan and Wong, Richard Y. C. *Economic Impact of SARS: The Case of Hong Kong*, Asian Economic Papers Vol. 3, Issue 1, pp. 113-131 (Winter 2004).

World Bank, *Ebola: Most African Countries Avoid Major Economic Loss but Impact on Guinea, Liberia, Sierra Leone Remains Crippling*, World Bank, January 20, 2015.

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